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498183

Site Specific Health and Safety Plan

Greiner's Lagoon – Fremont, Ohio

June 2005

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Site Specific
Health and Safety Plan
Greiner's Lagoon Site
Sandusky County , Ohio

June 2005

WO# 0004100

Submitted to
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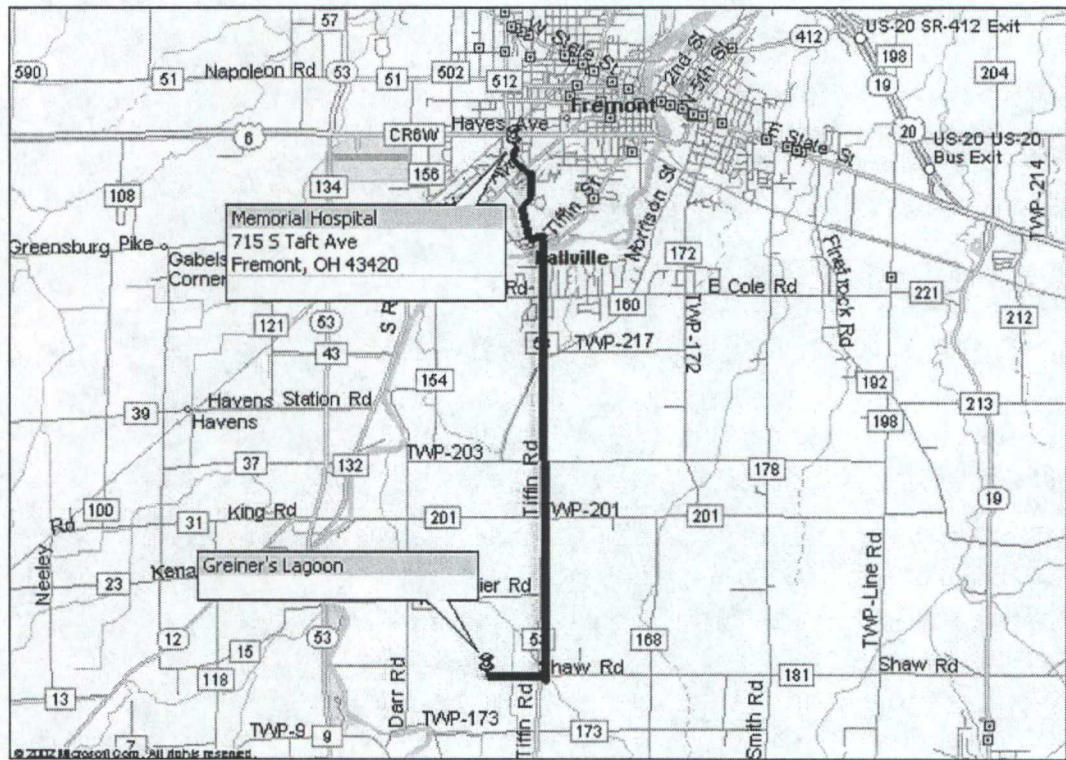
The Greiner's Lagoon Site (Site) is located south of Fremont, Ohio on County Road 181 about ½-mile west of Tiffin Road in Ballville Township, Sandusky County (Figure 1-1). The Greiner's Lagoon Site, the subject of this Removal Action (RA), is a site that was originally developed in 1954 and contained four lagoons that were used to store waste oil from nearby industry. During the course of Site operations by various owners, a number of community complaints and legal actions were undertaken because of odors and releases from the lagoons. From 1981 to 1988, the USEPA implemented site removal actions that included lagoon dike reinforcement, surface oil removal, liquids treatment and discharge, sludge solidification, lagoon backfilling, and placement of a soil cover over the filled lagoons. Between 1982 and 1985, the Ohio Environmental Protection Agency (OEPA) coordinated the delivery of sand and gravel washings from the processing of sugar beets and placement of the material in the lagoons to solidify the material in the open lagoons.

On July 30, 1991, The Lubrizol Corporation (Respondent) entered into an Administrative Order by Consent (AOC) with USEPA Region V pursuant to Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) to undertake actions to produce an Engineering Evaluation/Cost Analysis (EE/CA) for the Site. The EE/CA report (revised May 2001) identified and evaluated several alternatives for a non-time critical removal action at the Site. One of these alternatives was the use of a technology known as phytoremediation. Phytoremediation is the use of plants to promote remediation of soil and/or ground water, to prevent soil erosion, and to control infiltration into and from subsurface strata. Based on the results of the EE/CA site investigations and risk assessments, phytoremediation was selected as the preferred removal action for the Site.

This Health and Safety Plan (HSP) describes the procedures that will be followed during the RA at the site.

This HSP is designed to protect the health and safety of personnel involved in the Site activities and to develop a contingency plan for dealing with on-site emergencies.

FIGURE 1-1



This HSP establishes responsibilities and procedures for the health and safety program to be followed during the RA. The site operations, procedures, and equipment will meet the requirements of OSHA 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response and the applicable subparts of OSHA 29 CFR 1926 and 29 CFR 1910.

Every potential safety hazard associated with this RA cannot be predicted. This HSP does not attempt to establish rules to cover every contingency that may arise, but it is intended to provide a basic framework for the safe completion of field activities and planning for reasonable contingencies. The procedures provided herein are to be used by all ERM employees who will be involved in the performance of the project. All personnel are required to enforce and adhere to the established rules specified in the approved HSP, which will be made available to them.

On-site subcontractors shall prepare a site-specific health and safety plan for their employees, and shall complete all work in accordance with that plan. Subcontractors may use this HSP as a guide in developing their own programs or they may choose to adopt this plan in full. The on-site subcontracting companies are ultimately responsible for having a written health and safety plan addressing their on-site activities and also for the health and safety of their employees on the Site. Copies of the subcontractors' health and safety plans will be provided to the Remedial Project Manager (RPM) and Project Coordinator prior to their starting work at the Site, and a copy will be kept on Site during periods of field work.

Safety responsibilities must be incorporated into project management roles to ensure proper program implementation. Additionally, all persons participating in this investigation must be aware of the potential hazards involved and assume appropriate responsibilities to protect themselves and others. A well-defined organizational structure is an important factor for instilling a strong safety ethic into field operations. Responsibilities as they impact health and safety are described below.

3.1

PROJECT MANAGER

The Project Manager (PM) is Mr. Jerome H. Jacobs of ERM. The Project Manager is responsible for coordinating activities so that project objectives are met without compromising health and safety. This responsibility includes identifying the resources necessary to complete project activities in accordance with the provisions of the HSP and other project plans.

3.2

SITE MANAGER

The Site Manager (SM) will be Ms. Sarah Clark of ERM or designated alternate. She will be responsible for the overall implementation and monitoring of the HSP by:

1. Ensuring that personnel are aware of and in compliance with the provisions of the HSP
2. Ensuring that appropriate personnel-protective equipment is available and properly used by all personnel as required by this HSP
3. Ensuring that personnel are aware of potential hazards associated with the project
4. Correcting any work practices that may result in injury or exposure to hazardous substances
5. Maintaining communications with the ERM Health and Safety Officer
6. Assisting the ERM Health and Safety Officer with ambient air monitoring
7. Conducting daily Site safety meetings during periods of field work.

ERM's Health and Safety Officer (HSO) is Ms. Stacey Lucas. She is responsible for the overall coordination of safety matters at ERM. Her responsibilities include arranging safety training programs, evaluating new procedures, providing a follow-up investigation on corrective actions, and generally monitoring the site investigation safety program. She also is responsible for ensuring that proper safety equipment and clothing are available and in working order, and providing liaison to field teams at the Site.

She will coordinate the health and safety program at the Site and will be responsible for the following:

1. Advising on health and safety policy issues.
2. Providing guidance on operational and logistical options.
3. Ensuring that all protective equipment remains in proper working order.
4. Ensuring that all personnel have received required Health and Safety training in accordance with applicable requirements of 29 CFR 1910.120.
5. Supervising and monitoring the safety performance of all personnel by conducting field audits when deemed necessary to ensure that the required work practices described in this health and safety plan are employed.
6. Following up on necessary corrective actions.
7. Stopping work should site conditions warrant such action.
8. Ensuring and verifying that all employees at the work site are being monitored under appropriate medical surveillance, hearing conservation, and respiratory protection programs in accordance with applicable requirements of 29 CFR 1910.120.
9. Recommending proper and necessary precautions to take or work limitations required to reduce heat or cold stress.
10. Investigating accidents, implementing appropriate corrective actions, and preparing accident/incident reports.

The HSO works with the Site Manager to coordinate activities such that project objectives are met without compromising health and safety.

FIELD PERSONNEL

All field personnel will report directly to the Site Manager and will be required to:

1. Be familiar with, and conform to provisions of the HSP.
2. Ensure that they are well informed of potential hazards at the work site and exercise informed consent in their work.
3. Report accidents and/or hazardous conditions to the Site Manager.
4. Have complete familiarity with their job requirements and the health and safety procedures involved.

All field personnel will have been trained according to the OSHA standards set forth in 29 CFR 1910.120, and should be able to identify potential hazards if they arise. The key personnel responsible for implementing this HSP are as follows:

Jerome H. Jacobs, Project Manager
Sarah Clark, Site Manager
Stacey Lucas, Health and Safety Officer
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30775 Bainbridge Road
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The purpose of the Hazard Identification is to determine the health and safety hazards that exist or potentially exist at the Site. OSHA requires that a hazard analysis be performed prior to the planned activities to identify specific hazards and to determine the control procedure(s) necessary to protect workers from the hazards identified. This HSP is based on the evaluation of the past Site activities and a review of available information from previous investigations. It is imperative that all activities must be conducted in a manner that does not compromise the safety and health of employees or the general public. During periods of field activity, the SM will conduct daily safety meetings.

4.1

CHEMICAL HEALTH HAZARDS

Based upon information obtained previously, potential compounds that may be encountered include metals, chlorinated hydrocarbons, aromatic hydrocarbons, polynuclear aromatic hydrocarbons, and phthalates. Chemical hazard information is presented in Table 4.1 for the contaminants of concern identified in the AOC between U.S. EPA and Lubrizol. This information is from Occupational Safety and Health Guidelines for Chemical Hazards, published by the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services. The data in Table 4.1 provide general information about the properties of the chemicals identified in the AOC. However, this information should be used with the understanding that, in many cases, the chemicals at the Site are probably in different forms than those for which NIOSH has published data, and they are found in very low concentrations compared to the occupational uses of the chemicals.

In order for the chemicals present at the Site to be a health hazard to Site workers, there must be an exposure through inhalation, dermal contact, or ingestion at a concentration high enough to cause health effects. Therefore, a chemical must satisfy two criteria before it can be considered a health hazard: (1) it must be present in a sufficient concentration on site; and (2) worker exposure must be possible.

During the performance of the field project activities, hazards posed by the on-site chemicals will be controlled mainly by minimizing worker contact. This approach will be used since the chemical source(s) will not be removed prior to conducting the field activities, and the routes of

exposure cannot be eliminated. The protective measures associated with each potential route of exposure are as follows:

Route of Exposure	Protective Measures to Prevent Contact
Inhalation	Air monitoring and respiratory protection (if necessary)
Dermal Contact	Protective apparel including Tyvek suits, nitrile-latex gloves, safety glasses, etc.
Ingestion	Protective apparel, personnel decontamination and Site control
All Routes	Safe work practices

The specific protective measures outlined above are described in more detail within this HSP. As the work at the Site progresses, these measures will be reviewed frequently to provide an ongoing analysis of their suitability based on newly developed information.

4.2 SAFETY HAZARDS

4.2.1 *Underground Installations*

As appropriate, utility companies will be contacted and advised of proposed work prior to the start of actual excavation or drilling. Prior to site work, efforts will be made by the SM to determine whether underground installations, i.e. sewer, telephone, water, fuel, electric lines, etc., will be encountered and, if so, where such underground installations are located. If no underground lines are noted, care will still be employed while drilling, because underground lines may be found in areas where they were not anticipated.

4.2.2 *Overhead Obstructions*

No excavation, construction or hoisting equipment will be operated within 10 feet of energized electrical overhead lines. Before any site work is to take place, all overhead obstructions will be identified by the SM. The overhead lines will be moved, de-energized, or guarded as to protect against contact.

4.2.3

Explosion and Fire

Care will be taken to prevent explosions and fires. Explosions and fires can result in intense heat, open flames, smoke inhalation, flying objects and release of toxic chemicals. Such releases can threaten both on-site personnel and the nearby public. To protect against explosions and fires, workers will keep all potential ignition sources away from areas where explosive or flammable environments may occur, and use work practices that will minimize the potential agitation or release of chemicals. Smoking will be prohibited in the work zone.

4.2.4

Drilling Operations

Drill rigs pose potential safety hazards of noise, crushing, entanglement, and lightning strike. Hearing protection will be used by personnel operating or in the vicinity of the drill rig. In addition, all site personnel will wear safety glasses, hard hats and steel toe boots. Careful physical actions and close communications by those operating and in the vicinity of the drill rig will minimize the potential safety hazard of this operation. An exclusion zone with a radius equal to the drill rig mast height plus 5 feet will be established for drilling operations. Only personnel required for the operation will be allowed within the exclusion zone. Drilling will not be performed during thunderstorms.

4.3

BIOLOGICAL HAZARDS

Potential biological hazards at the Site include ticks and vegetation such as poison ivy. Site personnel will routinely inspect for and remove any ticks from skin and clothing. Health and safety briefings will include identification of poison ivy so that contact with it can be avoided.

Air quality monitoring equipment is used to determine whether hazardous conditions exist and to establish the required level of respiratory protection. Air quality will be continuously monitored during project operations to determine the level of volatile organics in the air and the concentration of combustible gases in the atmosphere. Measurements will be recorded in the field log book. To ensure that all monitoring instruments are operating properly, a field calibration will be performed and documented in the field log book prior to each day's use or more frequently if necessary. The specific instruments identified below will be calibrated and maintained in accordance with the manufacturers' procedures.

5.1**ORGANIC VAPORS**

Air quality will be monitored during Site activities by the HSO, SM, or designated personnel for the presence of volatile organics. A Foxboro 128 OVA flame ionization detector (FID), or equivalent monitor, will be used to measure organic vapors. An explosimeter, such as the Gastech GX-82 or GX-86, will be used when drilling boreholes.

5.2**COMBUSTIBLE GASES**

Based on previous sampling results, levels of combustible gases capable of causing an explosion are not likely to be encountered at the Site. All site activities will take place in open spaces, thus, minimizing the possible accumulation of combustible gases in confined areas. An explosimeter will be utilized to measure the presence of combustible gases. Combustible gases will be monitored only when levels of organic vapors are detected at action levels discussed in Section 6.

5.3**PARTICULATES**

When Site conditions or field activities are conducive to generating dust, airborne particulates will be monitored using an MEI-1 real time air monitor, or an equivalent monitoring device.

To ensure that all personnel are protected against the known or anticipated hazards, the following work limitations and conditions have been established. When these limitations have been exceeded, work will be suspended at the Site. Figure 6-1 shows the proposed exclusion zone, safety and support zone, temporary decontamination area, prevailing wind direction, and egress route.

6.1

WORK LIMITATION CRITERIA

All jobs will be carried out as per the directions of the SM and HSO.

6.1.1

Air Criteria

The SM is responsible for conducting air monitoring at the Site for Health and Safety purposes. Air monitoring will be conducted during all field operations, i.e. drilling, soil sampling, etc. to determine limitations to work activities. Air monitoring will routinely analyze for the following parameters:

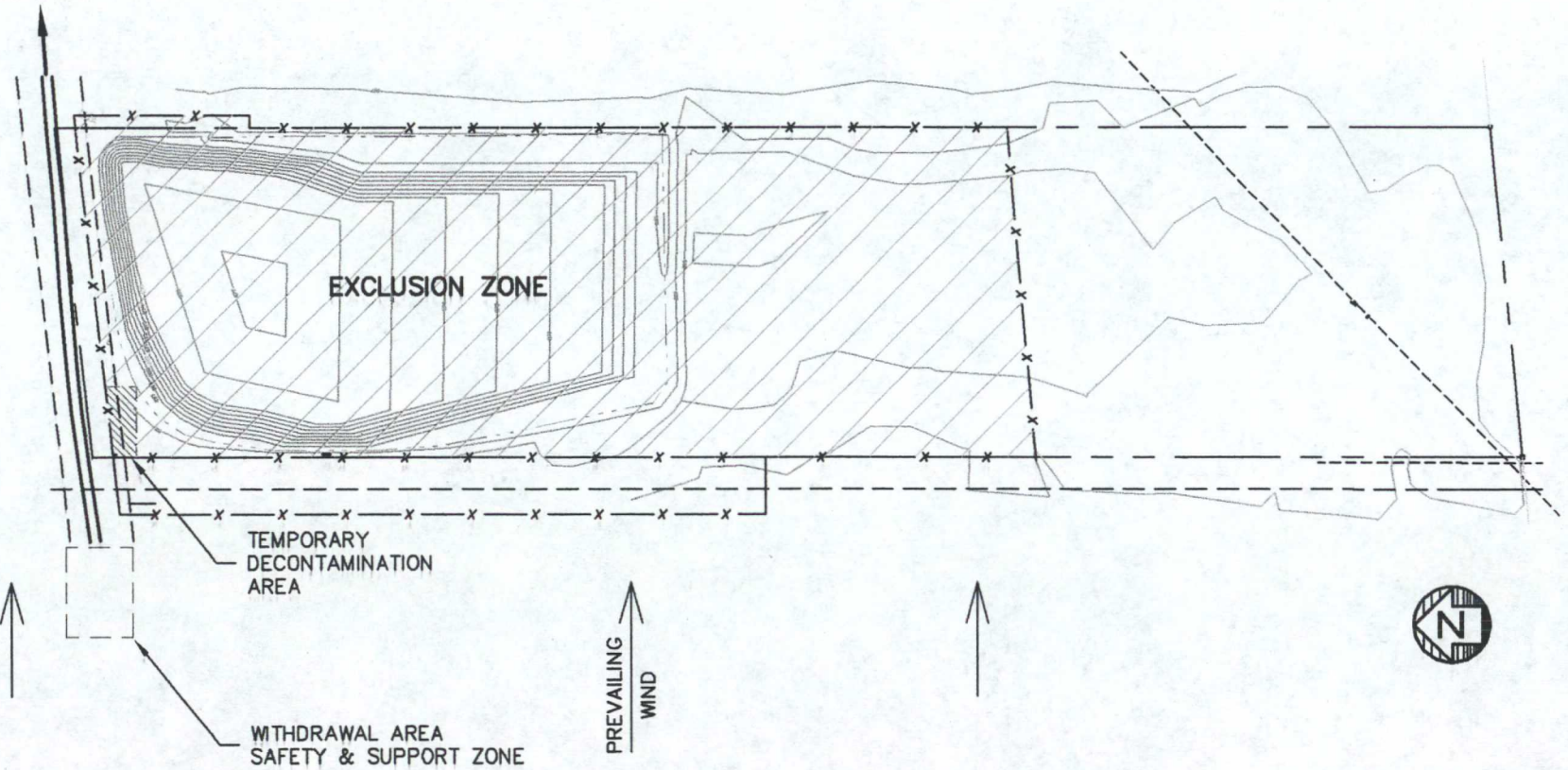
1. Volatile organic compounds — Measured by a Foxboro 128 OVA FID (flame ionization detector) or equivalent monitoring device.
2. Combustible gases — Measured by an explosimeter such as the Gastech GX-82 or GX-86.
3. Particulates — Measured by a real time air monitor (MEI-1) or equivalent monitoring device.

The following action levels or work limitations will be used during the investigation.

1. Volatile Organic Gases (constant levels measured in breathing space)
Background to 5 ppm — Level D protection required (see Section 8.2)
5 ppm to 25 ppm — Level C protection required (see Section 8.1)
25 ppm — Evacuate work area until concentrations have been determined to be at safe levels by the SM in conjunction with the HSO. If there is any field activity to identify the source and control the vapors, Level B respiratory equipment will be brought to the Site. Appendix HSP-C describes the Level B respiratory equipment and operating procedures.

HEALTH AND SAFETY PLAN

EGRESS ROUTE TO
COUNTY ROUTE 53



REVISIONS TO BE MADE ON THE CADD FILE ONLY

Drawn By
FAK

CADD Review
RMK

Date Drawn/Rev'd
5/20/05



LUBRIZOL
GREINER'S LAGOON SITE
FREMONT, OHIO

Environmental Resources Management

CHK'D
JJ

0004100

FIGURE 6-1

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2. Combustible gases

0-10% of LEL* — routine operations, monitor other parameters

10-20% of LEL* — evacuate work area, investigate situation until concentrations return to safe level

3. Particulates

Less than 15 mg/m³ — Level D protection required

15 mg/m³ — Level C protection required

*LEL— Lower Explosive Limit

6.1.2 *Extreme Weather Conditions*

Cold-related illness, or cold stress, can occur when working in temperatures at or below freezing. An illness such as frostbite may cause severe injury to the skin and extremities. Unless the victim is obviously contaminated, decontamination should be minimized or omitted and treatment begun immediately. First aid and emergency procedures for handling cold-related disorders are described in Section 11.2.

In order to reduce the occurrence of cold stress, the following will be observed while conducting field activities, unless the HSO approves a work rule exception:

1. Drilling and related activities will only be conducted in sustained daily average temperatures at or above 25°F. When average daily temperatures are below 25°F, the SM will consult with the HSO to determine whether field activities will be conducted.
2. When work involves water and the sustained daily average temperatures are below 25°F, the SM will consult with the HSO to determine whether field activities will be conducted.

Heat-related illnesses, or heat stress, may occur at any time when restrictive protective clothing is worn. An illness such as heatstroke requires prompt treatment to prevent irreversible damage or death. Protective clothing may have to be cut off and decontamination may have to be minimized or omitted to allow treatment to begin immediately. First aid and emergency procedures for handling heat related disorders are described in Section 11.2.

In order to avoid the occurrence of heat stress, continuous physical labor work may be conducted as long as outdoor temperatures do not exceed 86°F. The HSO will consider such factors as the type of protective equipment being worn and physical work being done and will modify the temperature limitations and/or the work schedule accordingly to further minimize the risk of heat stress. As a further precaution against heat stress, periodic monitoring of body temperature will be performed at times deemed appropriate by the HSO based on site activity and outdoor temperature.

6.2 WORK ZONE EVACUATION

It is anticipated at this time that, if necessary, evacuation will only involve evacuation of the immediate work zone area.

6.2.1 Upwind Withdrawal

The Site Manager will determine a safe upwind location for withdrawal from the work zone. Withdrawal will be necessary in the following cases:

1. Work zone breathing space air quality concentrations contain hazardous concentrations of volatile organics (greater than 25 ppm above instrument background), or combustible gases (greater than 10 percent LEL).
2. Occurrence of a minor accident. The victim will undergo decontamination procedures and be transported to a safe upwind location. Field operations will resume after first aid and/or decontamination procedures have been administered to the affected individual, and cause of the accident is identified and corrected by the Site Manager.

6.2.2 Evacuation of Work Site

The Work Site will be evacuated in the following cases:

1. The air quality monitoring determines that a majority of the Site atmosphere contains greater than 20 percent of LEL combustible gases, or greater than 25 ppm volatile organics.
2. A major accident or injury occurs.
3. Fire and/or explosion.

When any of these Site evacuation conditions are met, the SM will use three blasts on an air horn to notify the workers to evacuate the Site. All equipment will be turned off and the keys will be left in the vehicle

ignitions. Gross decontamination may take place on site or may be omitted at the discretion of the SM. Personnel will withdraw to the Site safety and support area. Figure 6-1 in Section 6.0 of the HSP shows the location of this area. If the area is no longer in a safe zone, the SM will identify an alternate area for rendezvous. The SM's log of on-site personnel will be used to ensure that all individuals have been evacuated. Control of personnel at the rendezvous point will be the responsibility of the SM.

Should a major accident or injury, fire and/or explosion occur, the SM shall immediately request emergency assistance from the local authorities. As soon as the emergency is deemed under control, the SM shall notify the RPM and the Lubrizol coordinator. On all such emergencies, a written report will be provided to the RPM within 48 hours.

During this investigation, all personnel must adhere to the following rules:

1. While in the work zone, the buddy system must be used to allow workers to act as safety backups to each other.
2. All personnel should be aware of the dangerous situations that may develop because of the physical constraints that may be imposed by personnel protection equipment required by this Health and Safety Plan.
3. Eating, drinking, chewing gum or tobacco, smoking, and any practice that increases the probability of hand-to-mouth transfer and ingestion of material are prohibited in the work zone.
4. Medicine and alcohol can increase the effects from exposure to toxic chemicals. Prescription drugs should not be taken by personnel where the potential for contact with toxic substances exists, unless specifically approved by a qualified physician. Alcohol intake is prohibited during the work day.
5. If Level C personal protection is required, facial hair (including beards and long sideburns) that interferes with the respirator face seal is not allowed on personnel required to wear respiratory protection equipment.
6. If Level C is required, contact lenses will not be permitted at the Site. If glasses are required, prescription or "plano" safety glasses meeting the requirements of ANSI Z87.1-1979 standards must be worn. Employees will be fitted with spectacle kits for use with full-face respirators when necessary.
7. Procedures for leaving any Level C contaminated area will be planned and implemented prior to going onsite. Work exclusion zones, and decontamination procedures will be established (see Section 10.0 and Figure 6-1 in Section 6.0).
8. Contact with contaminated or potentially-contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, mud, or any discolored ground surface; do not kneel on the ground, lean, sit or place equipment on drums, containers, vehicles or on the ground.
9. Air monitoring will be conducted continuously in the work zone. Ambient air quality can change rapidly during subsurface excavations.

10. No personnel will be admitted to the work exclusion zones without the proper safety equipment, OSHA training, and medical clearance as required by 29 CFR 1910.120.
11. Proper decontamination procedures must be followed before leaving the work site (see Section 9.0).
12. All personnel must comply with established safety procedures. Any person who does not comply with the established safety policy will be asked to leave the Site due to safety violations and will not be allowed to return to the Site without disciplinary action taken.
13. Any medical emergency supersedes routine safety requirements (see Section 11.0).

Personnel protection and procedures for specific tasks to be conducted during this study are discussed in this section.

All personnel must wear appropriate protective equipment and follow safe work practices during field investigations. Protective clothing shields the skin from contact with hazardous chemicals, respirators protect the lungs and respiratory system (and eyes, when full-face respirators are worn), safety eye glasses/goggles protect the eyes, and good personal hygiene limits or prevents ingestion/absorption or inhalation of foreign materials. Standard operating procedures minimize the potential for accident.

Levels of protection for specific field activities will be reviewed throughout this project. The levels of protection contained herein are to be considered requirements based upon FID and/or PID readings. At the Site, air quality monitoring will be conducted and will be used to establish appropriate levels of personnel protection.

The SM will modify the level of protection to be utilized in the field after consulting with the HSO. The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated will result in the suspension of work until the HSO and the PM have been notified and appropriate instructions have been provided to the SM.

During the performance of field activities, drill rig work areas will be considered work exclusion zones. These work areas will surround the location of the field activity.

Air monitoring equipment will be used to determine the level of protection needed within that work area. All personnel entering a work exclusion zone will be required to use the level of protection that has been deemed appropriate.

Based on preliminary information, the activities conducted within the exclusion zone should be conducted in Level D. The field team will be equipped to upgrade to Level C if daily monitoring indicates levels of organic vapors above the action level specified in Section 6.1.1 of the HSP.

8.1

LEVEL C

Level C safety equipment will be worn when in the work exclusion zone if VOC concentrations are persistently greater than 5 ppm (above background) and less than 25 ppm as measured with FIDs or PIDs in the worker's breathing zone. If concentrations exceed 25 ppm, work will cease until the HSO determines whether the concentrations present are approaching the IDLH levels.

8.1.1

Level C Protective Equipment

1. Full-face air purifying respirator with organic vapor/high efficiency particulate air (OV/HEPA) cartridges
2. Poly-coated chemical-resistant coveralls (e.g. Tyvek overalls)
3. Outer gloves, chemical resistant, nitrile-latex (solvex) taped to sleeves and inner gloves (vinyl)
4. Chemical resistant boots (outer) disposable (taped to cuffs)
5. Hard hat and steel toe boots
6. Hearing protection (when less than 25 feet from operating drill rig)

8.1.2

Level C Selection Criteria

1. Atmospheric organic contaminants 5 to 25 ppm
2. Atmospheric particulates at 15 mg/m³ or greater
3. Conditions are such that small exposed areas about the head and neck will not be contacted by hazardous substances.
4. If the atmosphere contains concentrations greater than 25 ppm volatile organics using FID and PID, work will cease until the HSO and the PM evaluate the situation. If there is any field activity to identify the source and control the organic vapors, Level B protective equipment will be brought to the Site.

8.2

LEVEL D

Based on preliminary information, it is anticipated that all field work will be conducted in Level D.

8.2.1

Level D Protective Equipment

1. Cotton work coveralls or disposable coveralls (e.g., Tyvek)
2. Hard hat and steel toe boots

3. Nitrile-latex (solvex) chemically protective gloves
4. Goggles or safety glasses
5. Hearing protection (when less than 25 feet from operating equipment)
6. Full-face air-purifying respirator with appropriate cartridges readily available

8.2.2

Level D Selection Criteria

Level D protection is the basic work uniform. It can be worn in areas where only boots can be contaminated, no visible toxic substances are present, VOC concentrations in the breathing space are equal to or less than 5 ppm above background levels, and particulate levels are less than 15mg/m³.

DECONTAMINATION AND HAZARDOUS MATERIALS HANDLING PROCEDURES

This project is anticipated to be conducted in Level D protective equipment. The level of contamination is, therefore, anticipated to be minimal. The following procedures concerning decontamination and materials handling will be implemented to ensure the health and safety of Site personnel and the general public. The Site Manager is responsible for making the determination to implement any or all of the decontamination procedures.

9.1

EQUIPMENT DECONTAMINATION PROCEDURES

All equipment will be decontaminated prior to and after its use on-site, if contact with contamination is believed to have occurred. The following procedures will be used for decontamination of equipment.

9.1.1

Heavy Equipment

Drill rigs, drilling equipment such as augers and drill stems, support vehicles, backhoe buckets, and any other heavy equipment that has come in contact with contaminated materials will be decontaminated at the on-site decon zone. Figure 6-1 in Section 6.0 shows the location of the temporary decon area.

The procedure for decontamination of heavy equipment is as follows:

1. Remove all loose soil
2. Steam
3. Potable water rinse

All cuttings, soils and fluids generated will be handled following the procedures discussed in Section 9.3 of this HSP.

9.1.2

Small Sampling Equipment

Small equipment used for sampling includes soil collection equipment, portable electronic equipment, well purging equipment, and ground water sampling equipment.

Sampling equipment such as split spoons, Shelby tubes, hand augers, stainless steel scoops/trowels, compositing containers, ground water

pumps, and bailers will be decontaminated prior to their initial use, between each sample and between each sample location. The procedure for decontaminating soil sampling equipment is as follows:

1. Remove loose soil
2. Non-phosphate soap wash
3. Tap water rinse
4. Deionized/distilled water rinse
5. Methanol rinse
6. Four rinses with deionized/distilled water
7. Air dry

All cuttings, soils and fluids generated will be handled following the procedures outlined in Section 9.3.

Electronic equipment such as PIDs, FIDs, and explosimeters, will be decontaminated prior to their initial use and at the end of each working day. The procedure for decontaminating electronic equipment is as follows:

1. Brush to remove particulate contamination
2. Wipe down with a clean, damp cloth (deionized water)
3. Air dry

Decontaminated electronic equipment will be wrapped in plastic and stored on a clean surface in a clean location.

9.1.3 *Monitoring Well Construction Supplies*

Supplies used to construct monitoring wells will be decontaminated prior to being installed. These supplies include screens, riser pipes, and outer casings. These supplies will be decontaminated with a steam cleaner at the on-site decon area. Decontaminated monitoring well materials will be stored on plastic sheeting within the on-site storage area.

9.2 *PERSONNEL DECONTAMINATION PROCEDURES*

The temporary decontamination area is shown in Figure 6-1 in Section 6.0. The total personnel decontamination process is divided into a number of individual steps. Each step within the decon process has specific decon tasks that must be performed. Each step is performed at a separate decon "station." Personnel will proceed from station to station until the total

decon process has been completed. At the beginning of the decon line, small tools and equipment will be placed in containers or on a protective surface. Personnel decontamination procedures will be dependent upon the level of protection that has been donned by the personnel. The following sections describe decon procedures for Level C and Level D protection.

9.2.1 *Level C Decontamination Procedure*

Level C protection will be worn during on-site work when VOC concentrations in the breathing zone are measured at concentrations greater than 5 ppm or particulate levels are greater than $15\text{mg}/\text{m}^3$. For a description of equipment and protective clothing required for Level C see Section 8.1.1 of this Health and Safety Plan.

The personnel decon procedure for individuals wearing Level C protection is as follows:

Stations 1 through 4 are located within the work exclusion zone.

1. Glove and Boot Wash

- Scrub and rinse outer gloves. Scrub and rinse outer boots. Remove tape from the outer boot/Tyvek joint and the outer glove/Tyvek joint. Dispose of tape in receptacle.

Equipment for Station 1:

1. Containers with detergent solution and containers with clean water.
2. Chairs to sit upon during outer boot wash.
3. Long-handle, soft-bristle scrub brushes.
4. Disposal receptacle.

2. Glove and Boot Removal

- Remove outer boots and outer gloves. Dispose of boots or store them in a plastic-lined receptacle. Dispose of outer gloves. Wash and rinse inner gloves. Remove APR.

Equipment for Station 2:

1. Plastic-lined storage receptacle and disposal receptacle.
2. Chairs to sit upon during outer boot removal.
3. Containers with detergent solution and containers with clean water.

3. Safety Equipment Wash

- Decontaminate equipment if it was used or soiled. Such equipment may include a hard hat, safety glasses, hearing protection or respirator.

Equipment for Station 3:

1. Containers with detergent solution and containers with clean water.
 2. Soft-bristle scrub brushes.
 3. Clean, wet wipe cloths.
 4. Sanitizing solution for cleaning respirators. New cartridges to replace spent respirator cartridges.
 5. Disposal receptacle for spent respirator cartridges and plastic-lined storage receptacles for decontaminated equipment.
4. Protective Clothing Removal
 - Remove and dispose Tyvek suit. Remove and dispose inner gloves.

Equipment for Station 4:

1. Disposal receptacle.

9.2.2 *Level D Decontamination Procedure*

The personnel decon procedure for individuals wearing Level D protection will be determined by the SM, which may include at a minimum the following:

1. Boot and Glove Wash
 - Scrub and rinse gloves or put on a new pair of gloves.
 - Scrub and rinse outer boots if they are visibly soiled.

Equipment:

1. Containers with detergent solution and containers with clean water.
 2. Long-handle, soft-bristle scrub brushes.
2. Safety Equipment Wash
 - Decontaminate equipment if it was used or soiled. Such equipment may include a hard hat, safety glasses, hearing protection.

Equipment:

1. Containers with detergent solution and containers with clean water.

2. Soft-bristle scrub brushes.
 3. Clean, wet wipe cloths.
3. Protective Clothing Removal
- Remove Tyvek overalls and deposit in plastic-lined receptacle. Remove gloves and dispose.

Equipment:

1. Disposal receptacle and plastic-lined storage receptacle.

9.3

HAZARDOUS MATERIALS HANDLING PROCEDURES

Soil and decontamination water will be handled according to the following procedures. The soil brought to ground surface during boring procedures (termed "cuttings") will be used to backfill the borings from which they are derived or handled as non-hazardous special waste. Each boring will be capped with a 1- to 2-foot-thick bentonite/cement grout mixture. The liquid by-products of decontamination, well development, and well purging will be containerized onsite until laboratory analyses of the water are received and used to determine proper disposal. The solid byproducts of decontamination (i.e. PPE such as Tyvek coveralls, gloves, tape, etc) will be handled as non-hazardous special waste.

A site sign in/out log will be used to record all personnel entering and leaving the site.

As shown in Figure 6-1 in Section 6.0, work zone exclusion areas will be defined around each field activity. The boundaries of such a work area will surround the location of the field activity. Within the boundaries of the work area, air monitoring equipment will be used to determine the level of protection needed in the work area. All personnel entering a work area will be required to use the level of protection that has been deemed appropriate. It is anticipated that tasks performed within these Site work areas will be performed with Level D protection.

Access to the work exclusion zones will be limited. The boundaries of these zones may be modified depending on such factors as prevailing winds and organic vapor levels.

10.1**ACCESS-PERSONNEL**

Only authorized personnel will have access into the work exclusion zones as deemed necessary by the SM.

10.2**SECURITY**

The SM will be responsible for security during working hours. For all Site activities that take place within the Site, the SM will limit access to the property. Security during non work hours will be provided by a locked fence (existing) surrounding the exclusion zone.

10.3**HSP VIOLATIONS**

Personnel who violate the provisions specified in the HSP will have their actions documented and submitted to their company's supervisor for appropriate disciplinary action. The document generation and liaison actions will be done by the PM.

The HSO will verify the training of all ERM personnel proposed for participation in the work at the Site. Training certificates for ERM personnel are available for inspection at ERM offices.

The HSP for this project has been established to allow Site operations to be conducted without adverse impacts on worker or public Health and Safety.

11.1**GENERAL MEDICAL PROCEDURES**

In the event of an emergency, appropriate corrective measures must immediately be taken to assist those who have been injured or exposed and to protect others from hazard. The SM should be immediately notified of the incident and, if necessary, first aid will be obtained from the county-wide Emergency Medical Service and Memorial Hospital. Emergency phone numbers are provided in Section 11.6 of the HSP.

Accident reports will be completed as necessary, returned to the HSO, and kept on file at ERM's Health Services Department. These and other forms are described in Section 12.0 and can be found in Attachment HSP-D.

In life threatening situations, care must be instituted immediately without considering decontamination protocol. Outside protective clothing can be removed if it does not cause delays, interfere with treatment, or aggravate the problem. Respirators must always be removed. If outer contaminated garments cannot be safely removed, the individual should be wrapped in suitable material to help prevent contaminating ambulances and/or medical personnel. For minor medical problems or injuries, normal decontamination procedures should be followed when at all possible.

All accidents/unusual events will be reported to the SM and the HSO. The SM is responsible for conducting the emergency response in an efficient, rapid, and safe manner. The SM will decide whether off-site assistance and/or medical treatment is required and the SM will arrange for assistance. Medical treatment is available from the county-wide Emergency Medical Service and Memorial Hospital, which has the capacity to handle chemical trauma.

All workers on site are responsible to conduct themselves in a mature, calm manner in the event of an accident/unusual event. All personnel must conduct themselves in a manner to avoid spreading the danger to themselves and to surrounding workers.

The following emergency equipment will be available on the Site in the safety and support area:

- First aid kit
- Fire extinguisher (Type A, B, and C)
- Cool wet towels or sheets
- Plentiful supply of potable water
- Portable eye wash station (Vallen No. 01104050 or equivalent)
- Communication equipment such as cellular telephone

11.2

COLD WEATHER/HEAT RELATED EMERGENCIES

Cold weather related emergencies include frostbite, trench foot, and hypothermia. Treatment of individuals experiencing any of these injuries will be administered immediately. Employees will be monitored by the SM to detect signs of cold weather related emergencies.

Frostbite occurs when there is actual freezing of the tissues with the attendant mechanical disruption of cell structure. With increasing wind velocity, heat loss is greater and frostbite will occur more rapidly. Once started, freezing progresses rapidly. Furthermore, if the skin comes in direct contact with objects whose surface temperature is below freezing point, frostbite may develop in spite of warm environmental temperatures. The first warning of frostbite is often a sharp, pricking sensation. However, cold itself produces numbness and anesthesia which may permit serious freezing to develop without the warning of acute discomfort. Injury produced by frostbite may range from simple superficial injury with redness of the skin, transient anesthesia and superficial bullae to deep tissue freezing with persisting ischemia, thrombosis, deep cyanosis, and gangrene.

If frostbite is detected, individuals should be transported to an emergency facility.

Trench foot or immersion foot may be caused by long continuous exposure to cold without freezing, combined with persistent dampness or actual immersion in water. This condition is due to persistent local tissue anoxia, combined with mild or severe cold with resultant injury to the capillary walls. Edema, tingling, itching, and severe pain occur and may be followed by blistering, superficial skin necrosis, and ulceration.

If trench foot is detected, the individual should be placed in blankets and moved to warm, dry location. If symptoms persist, the individual should seek medical attention.

General hypothermia is an extreme acute problem resulting from prolonged cold exposure and heat loss. If an individual becomes fatigued during physical activity, he will be more prone to heat loss, and as exhaustion approaches, the vasoconstrictor mechanism is overpowered; then sudden vasodilatation occurs with resultant rapid loss of heat, and critical cooling ensues. Sedative drugs and alcohol increase the danger of hypothermia.

If hypothermia is detected the individual should be wrapped with blankets and transported immediately to an emergency facility.

Heat related emergencies can range from heat cramps to life threatening heatstroke. Treatment of individuals suffering from any of these injuries will be administered immediately. Employees will be monitored by the Site Safety Officer to detect signs of heat related emergencies.

Heat rash (prickly heat) may be caused by unrelieved exposure to hot and humid air as may occur in warm-moist climatic zones. The orifices of the sweat ducts become plugged due to the swelling of the moist keratin layer of the skin which leads to inflammation of the glands. There are tiny red vesicles visible in the affected skin area and, if the affected area is extensive, sweating can be substantially impaired. As a consequence heat rash not only is a nuisance because of the discomfort it causes but also can greatly diminish the worker's capacity to tolerate heat.

Heat cramps may occur after prolonged exposure to heat with profuse perspiration and inadequate replacement of salt. The signs and symptoms of heat cramps consist of spasm and pain in the muscles of the abdomen and extremities. Albuminuria may be a transient finding.

Heat cramps will be treated by administration of water, removal of the individual to a cool, shaded location, and rest.

Heat exhaustion may result from physical exertion in a hot environment when vasomotor control and cardiac output are inadequate to meet the increased demand placed upon them by peripheral vasodilatation or the plasma volume is reduced by dehydration. Signs and symptoms of heat exhaustion may include pallor, lassitude, dizziness, syncope, profuse sweating, and cool moist skin. There may or may not be a mild hypothermia, observable by rectal measurement.

Heat exhaustion will be treated by elevating the individual's feet, transporting to a cool, shaded area, administration of water, application of cool water or compresses, and transport to emergency facility if individual response is not rapid and full.

Heat stroke is a serious medical condition. An important predisposing factor is excessive physical exertion. Signs and symptoms may include dizziness, nausea, severe headache, hot dry skin because of cessation of sweating, very high body temperature (usually 106°F and rising), confusion, collapse, delirium, and coma. Often circulation is also compromised to the point of shock. If cooling of the victim's body is not started immediately, irreversible damage to vital organs may develop, leading to death.

Heat stroke will be treated as a true medical emergency. An ambulance will be called as soon as an individual has been diagnosed as suffering from heat stroke. An immediate attempt will be made to decrease the body temperature as rapidly as possible by applying cold wet sheets or compresses and placing the individual supine, feet elevated, in an air conditioned environment until transportation to emergency care facilities.

For work limitation and precautions for avoiding heat and cold related injuries see Section 6.1.2 of the HSP.

11.3

CHEMICAL EXPOSURE

Chemical exposure can be divided into two categories:

- Injuries from direct contact, such as acid burns or inhalation of toxic chemicals.
- Potential injury due to gross contamination on clothing or equipment.

For the inhaled contaminant, treatment can only be provided by qualified physicians. If the contaminant is on the skin or in the eyes, immediate measures must be taken to counteract the substance's effect. First aid treatment usually is flooding the affected area with copious amounts of water for a minimum of 15 minutes.

When protective clothing is grossly contaminated, contaminants may be transferred to treatment personnel or the wearer and cause injuries. Unless severe medical problems will be aggravated by splashing water, the protective clothing should be washed off as rapidly as possible and carefully removed. Portable eye washes and potable water will be available to provide a means of flushing and washing such contamination.

If the injury to the worker results from a chemical splash or uncontrolled release, the following first aid procedures are to be instituted:

- **Eye Exposure** — If contaminated solids or liquids get into the eyes, wash eyes immediately at the emergency eyewash station using large amounts of water and lifting the lower and upper lids occasionally. Continuously wash for a minimum of 15 minutes. Obtain medical attention immediately.
- **Skin Exposure** — If contaminated solids or liquids get on the skin, promptly wash the contaminated skin using soap or mild detergent and water. If severely contaminated material penetrates through the clothing, remove the clothing immediately and wash the skin using soap or mild detergent and water. Obtain medical attention immediately when exposed to such material.
- **Breathing** — If a person breathes in large amounts of contaminants, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration immediately. Keep the affected person warm and at rest. Obtain medical attention as soon as possible.
- **Swallowing** — When contaminants have been swallowed and the person is conscious, attempt to obtain information to aid in identifying the substance swallowed from the person. Contact the poison control center immediately. Under poison control center's direction, one or two glasses of milk or water may be administered to dilute the swallowed material. The center may direct responder to induce vomiting. Transport the person to the hospital and monitor his or her airway constantly.

11.4 FIRES

Fire extinguishers will be available on site in the safety and support area shown in Figure 6-1 in Section 6.0. If a small localized fire breaks out, fire extinguishers will be used to bring the fire under control. If necessary and feasible, a fire blanket, soil, or other inert materials will be placed on the burning area to extinguish the flames and minimize the potential for spreading. If appropriate, local fire-fighting authorities will be contacted for assistance.

If an uncontrolled fire develops releasing potentially toxic gases, on-site personnel will be evacuated in accordance with procedures in Section 6.2 of the HSP. Only personnel trained in fire fighting and outfitted with proper protective equipment will be allowed in the immediate fire area. The SM or his designated assistant will alert local fire-fighting companies.

EMERGENCY PHONE NUMBERS

Contact	Telephone
Fremont Fire Department	911 or (419) 332-5551
Fremont Police Department 1141 W. State Street Fremont, OH 43420	911 or (419) 332-6464
Emergency Medical Service (Ambulance - County-wide)	911 or (419) 334-4401
Poison Control Center	(419) 471-4101 or 381-3897
Sandusky County Sheriff 2323 Countryside Dr. Fremont, OH 43420	(419) 332-2613
Memorial Hospital 715 S. Taft Avenue Fremont, OH 43420	(419) 332-7321
ERM, Inc. Solon, Ohio	(440) 542-0750
Lubrizol Project Coordinator Ken Frato	(440) 347-3629
Thomas Williams Remedial Project Manager Office of Superfund 77 West Jackson Boulevard Chicago, IL 60604-3590	(312) 886-1477
U.S. EPA Region V 24-hour	(312) 353-2318

The following forms are described in this section and can be found in the Appendix:

1. Plan Acceptance Form.
2. Incident Report Form.
3. Respirator Inspection Record

The Plan Acceptance Form will be completed by all personnel working at the Site. The Incident Report Form will be completed by the SM or the HSO. The Respirator Inspection Record will be completed by personnel when first on site and after any use of the respirator.

All completed forms will be returned to the HSO.

To safeguard the health of response personnel, a medical surveillance program has been established.

13.1

BACKGROUND

Prior to work at hazardous waste sites, ERM employees must undergo a thorough physical examination, if not performed within the preceding 12 months. At present, they are conducted by University Mednet in Cleveland, Ohio as required by ERM's Medical Surveillance Program. Pre-site investigation medical examinations establish each individual's state of health, provide baseline physiological and psychological data, and assess the individual's ability to cope with the stress of hazardous waste site investigations.

Annual medical examinations are conducted to assess the health status of individual workers as to their fitness for continued assignments at hazardous waste sites. Periodic or follow-up medical evaluation of individual workers will be conducted as deemed necessary by ERM's HSO and Medical Advisor per exposure to various environmental factors. The content and frequency of these examinations is influenced by the kinds of work and exposures encountered by each individual. The frequency of these follow-up examinations is established by the HSO in conjunction with the Medical Advisor.

13.2

PHYSICAL EXAMINATION

Each individual receives a thorough physical examination which includes an evaluation of blood counts and blood chemistry to assess blood-forming, kidney, liver, and metabolic functions. The examining physician, or his/her immediate supervisor, will be accredited by the American Occupational Medical Association (AOMA). In addition, the physician and/or appropriate medical staff professional(s) will be certified by the Council of Accreditation in Occupational Hearing Conservation (29 CFR 1910.95 (g)(3) Noise Standard) in order to perform and interpret audiograms/audiometric tests. Pulmonary function tests will be performed by certified spirometrist who has taken the required NIOSH spirometry course. X-rays will be read by a technician with a B license. Specifically, the physical examination consists of the following elements:

Physical Examination

1. Review of personal and family health history
2. Complete physical examination
3. History of occupational exposures
4. Eye tests:
 - Near and distant vision
 - Color vision
 - Peripheral vision
 - Depth perception
5. Hearing test (Audiometric screening)
6. Electrocardiogram, 12 lead
7. Pulmonary function study (functional lung capacity)
8. Chest X-Ray

Laboratory Studies

1. Hematology
 - Red blood count
 - White blood count
2. Differential
 - Polys
 - Lymphs
 - Mono
 - Eos
 - Baso

3. Blood chemistries (26)

Calcium	Direct Bilirubin
BUN/Creat ratio	LDH
Creatinine	Total lipids
Total protein	Chloride
Total Bilirubin	T4
Alk. Phosphatase	BUN
Iron	Glucose
Potassium	Globulin
Triglycerides	SGOT
Phosphorus	SGPT
Uric Acid	Cholesterol
Albumin	Sodium
Alb/glob ratio	GGTP

4. Urogram:

Acetone	Specific gravity
Glucose	Blood
Albumin	pH

5. Serology

IgE

IgG

6. Papanicolaou (PAP) test for cervical cancer (female staff)

Summary reports of the examinations are sent to each employee at their home address and to ERM's Medical Department. Full results of each physical are sent to each employee's personal physician upon written request and/or authorization of employee. Employee reports are kept at University Mednet.

Table 4-1
List of Potential On-Site Compounds and
Associated Exposure Information

Compound	TLV/PEL*	Characteristics	Route of Exposure	Symptoms of Overexposure*	Target Organs	Instrument Used to Monitor Contaminant
The following VOC's						
Acetone	750 ppm	Colorless liquid, with a fragrant, mint-like odor.	Inhalation Ingestion Contact	(1), (2)	Respiratory System, skin.	OVA or equivalent
Toluene	100 ppm	Colorless liquid with a sweet, pungent odor.	Inhalation Ingestion Contact Absorption	(1),(2),(3)	CNS, kidneys, skin, liver.	OVA or equivalent
Trichloroethene	50 ppm	Colorless liquid, with a chloroform-like odor.	Inhalation Ingestion Contact	(1), (2), (5)	Resp. system, heart, liver, C skin, kidneys.	OVA or equivalent
Xylene	100 ppm	Colorless liquid, with an aromatic odor.	Inhalation Ingestion Contact Absorption	(1), (2), (3)	CNS, eyes, GI tract, blood, l kidneys.	OVA or equivalent
The following Metals						
Antimony	0.5 mg/m ³	Silver-white lustrous, hard brittle solid; scale-like crystals or a dark gray powder.	Inhalation Contact	(1), (2), (3)	CVS, resp. system, skin, eye	RAM 1

(1) Eye, nose, throat, skin irritation or burns

(2) Headache, fatigue, nausea

(3) Lightheaded, some nausea, dull visual and audio response

(4) Central nervous system disorder, convulsions, sweating

(5) Potential or known carcinogen

CNS- Central Nervous System

CVS- Cardiovascular System

* PEL - Permissible Exposure Limits (OSHA) - 8 hour exposure

Note: Lowest established value is listed.

Table 4-1
List of Potential On-Site Compounds and
Associated Exposure Information

Compound	TLV/PEL*	Characteristics	Route of Exposure	Symptoms of Overexposure*	Target Organs	Instrument Used to Monitor Contaminant
Arsenic	0.010 mg/m3	Silver-gray or tin white, brittle, odorless solid.	Inhalation Ingestion Contact Absorption	(4), (5)	Liver, kidneys, skin, lungs, lymphatic system.	RAM 1
Barium	0.5 mg/m3	White, odorless solid.	Inhalation Ingestion Contact	(1), (2), (3)	Heart, CNS, skin, resp. syst. eyes.	RAM 1
Boron	10 mg/m3	Colorless, semi-transparent lumps or hard white crystals.	Inhalation Ingestion Contact	(1),	Skin, eyes.	RAM 1
Chromium	0.5 mg/m3	Blue-white to steel-gray lustrous, brittle hard solid.	Inhalation Ingestion	(5),	Resp. system.	RAM 1
Lead (1,2 -Dichloroethane)	0.05 mg/m3	Heavy, ductile, soft gray solid.	Inhalation Ingestion Contact	(2),(3),(4)	GI tract, CNS, kidneys, blood, gingival tissue.	RAM 1
Lithium	0.025 mg/m3	White powder.	Inhalation Ingestion Contact	(1), (2)	Resp. system, skin, eyes.	RAM 1

(1) Eye, nose, throat, skin irritation or burns

(2) Headache, fatigue, nausea

(3) Lightheaded, some nausea, dull visual and audio response

(4) Central nervous system disorder, convulsions, sweating

(5) Potential or known carcinogen

* PEL - Permissible Exposure Limits (OSHA) - 8 hour exposure

TLV - Threshold Limit Value (ACGIH) - 8 hour exposure

Note: Lowest established value is listed.

CNS- Central Nervous System

CVS- Cardiovascular System

PNS- Peripheral Nervous System

Table 4-1
List of Potential On-Site Compounds and
Associated Exposure Information

Compound	TLV/PEL*	Characteristics	Route of Exposure	Symptoms of Overexposure*	Target Organs	Instrument Used to Monitor Contaminant
Magnesium	10 mg/m ³	Finely divide particulate dispersed in air.	Inhalation Contact	(1), (2)	Resp. system, eyes.	RAM 1
Nickel	1 mg/m ³	Lustrous silvery metal.	Inhalation Ingestion Contact	(2), (3), (5)	Lungs, paranasal sinus, CNS	RAM 1

(1) Eye, nose, throat, skin irritation or burns

(2) Headache, fatigue, nausea

(3) Lightheaded, some nausea, dull visual and audio response

(4) Central nervous system disorder, convulsions, sweating

(5) Potential or known carcinogen

* PEL - Permissible Exposure Limits (OSHA) - 8 hour exposure

TLV - Threshold Limit Value (ACGIH) - 8 hour exposure

Note: Lowest established value is listed.

CNS- Central Nervous System

CVS- Cardiovascular System

PNS- Peripheral Nervous System

PLAN ACCEPTANCE FORM
Site Specific Health and Safety Plan
Greiner's Lagoon Site
Sandusky County, Ohio

Site Manager

Site Personnel

Project Manager/Date

Health & Safety Officer/Date

Incident Report Form

CLIENT NAME: _____

LOCATION OF INCIDENT: _____

DATE: _____ EMPLOYEE NAME: _____

TYPE OF INCIDENT: _____

EMPLOYEE JOB TITLE: _____

SPECIFIC JOB AT TIME OF INCIDENT: _____

LEVEL OF PROTECTION WORN AT TIME OF EXPOSURE:

INCIDENT SUMMARY: _____

CORRECTIVE ACTIONS: _____

EMPLOYEE SIGNATURE: _____

SITE SAFETY OFFICER: _____

ERM H&S COORDINATOR: _____

TIME & DATE OF REPORT: _____

RESPIRATOR INSPECTION RECORD

Company: _____

Date: _____

_____ Routine use only

_____ Emergency use only

Respirator type: _____

Respirator make, model, and size: _____

Defects:

Facepiece _____

Inhalation valve _____

Exhalation valve assembly _____

Headbands _____

Filter holder _____

Filter _____

Harness assembly _____

Hose assembly _____

Speaking diaphragm _____

Gaskets _____

Connections _____

Other defects _____

Signature _____ Date _____